CLAIM LISTING

1. (original) A composition comprising:

(a) a functional promoter comprising a water-soluble anionic polymer having a molecular weight of at least about 50,000 daltons and a molecular weight charge index value of at least about 10,000;

(b) a cationic surfactant component;

wherein when the composition treats a fibrous substrate, in conjunction with a cationic strength agent, the treated fibrous substrate exhibits (i) a ratio of wet tensile strength to dry tensile strength ranging from about 1:5 to about 1:2 and (ii) an increase in a ratio of wet tensile strength to dry tensile strength of at least about 10%, as compared to when the fibrous substrate is treated with the functional promoter and without a surfactant.

2. (original) The composition of Claim 1, wherein the cationic surfactant component is present in an amount of less than about 50 wt %, based on the combined weight of the water-soluble anionic polymer and the cationic surfactant component.

3. (original) The composition of Claim 1, wherein the cationic surfactant component is selected from the group consisting of alkylated quaternary amines, alkyl aryl quaternary amines, alkoxylated quaternary amines, imidazolinium quaternary amines, functionalized polysiloxanes, and combinations thereof.

4. (original) The composition of Claim 1, wherein the cationic surfactant component is present in an amount ranging from about 10 % to about 50%, based on the total weight of the composition.

5. (original) The composition of Claim 4, wherein the cationic surfactant component is present in an amount ranging from about 20% to about 40%, based on the total weight of the composition.

6. (original) The composition of Claim 1, wherein when the composition treats a fibrous substrate, in conjunction with a cationic strength agent, the increase in wet tensile strength: dry tensile strength ratio ranges from about at least about 10% to about

50%.

7. (original) The composition of Claim 1, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 5,000,000 daltons.

8. (original) The composition of Claim 1,wherein the functional promoter has a molecular weight ranging from about 50,000 to about 2,000,000 daltons.

9. (original) The composition of Claim 1, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 1,000,000 daltons.

10. (original) The composition of Claim 1, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 750,000 daltons.

11. (original) The composition of Claim 1, wherein the functional promoter has a molecular weight charge index value ranging from about 10,000 to about 1,000,000.

12. (original) The composition of Claim 1, wherein the functional promoter has a molecular weight charge index value ranging from about 10,000 to about 500,000 daltons.

13. (original) The composition of Claim 1, wherein the functional promoter is in solution.

14. (original) The composition of Claim 13, wherein the molecular weight of the functional promoter is less than 5,000,000 daltons.

15. (original) The composition of Claim 1, wherein the functional promoter is selected from the group consisting of copolymers of acrylamide-acrylic acids, copolymers of methacrylic acid, copolymers having alkyl acrylates and acrylic acid, copolymers of alkyl methacrylates and acrylic acid, anionic hydroxyalkyl acrylate copolymers, hydroxy alkyl methacrylate copolymers, copolymers of alkyl vinyl ethers and acrylic acid, anionic polymers made by hydrolyzing an acrylamide polymer, anionic polymers made by polymerizing (i) (methyl)acrylic acid, (ii) (methyl)acrylic acid salts,

(iii) 2-acrylamido-2-methylpropane sulfonate, (iv) sulfoethyl-(meth)acrylate, (iv) vinylsulfonic acid, (v) styrene sulfonic acid, (vi) dibasic acids, (vii) salts of the foregoing monomers, and mixtures thereof, and anionic polymers made with crosslinking agents.

16. (original) A composition comprising

(a) a functional promoter comprising a water-soluble anionic polymer having a molecular weight ranging from about 50,000 daltons to about 500,000 daltans and a molecular weight charge index value of more than 10,000 and less than 500,000,

(b) a cationic surfactant component present in an amount of less than about 50 wt %, based on the combined weight of the water-soluble anionic polymer and the cationic surfactant component,

wherein when the composition treats a fibrous substrate, in conjunction with a cationic strength agent, the treated fibrous substrate exhibits (i) a ratio of wet tensile strength to dry tensile strength ranging from about 1:5 to about 1:2 and (ii) an increase in a ratio of wet tensile strength to dry tensile strength of at least about l0%, as compared to when the fibrous substrate is treated with the functional promoter and without a surfactant.

17. (original) The composition of Claim 16, wherein the molecular weight ranges from about 50,000 to about 250,000 daltons.

18. (original) The composition of Claim 16, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 100,000 daltons.

19. (original) The composition of Claim 16, wherein the functional promoter has a molecular weight ranging from about 300,000 to about 500,000.

20. (original) The composition of Claim 16, wherein the functional promoter has a molecular weight charge index value ranging from about 10,000 to about 100,000.

21. (original) The composition of Claim 16, wherein the functional promoter has a molecular weight charge index value ranging from about 25,000 to about 100,000.

22. (original) The composition of Claim 16, wherein the functional promoter

is in solution.

23. (original) The composition of Claim 16, wherein the functional promoter is selected from the group consisting of copolymers of acrylamide-acrylic acids, copolymers of methacrylic acid, copolymers having alkyl acrylates and acrylic acid, capolymers of alkyl methacrylates and acrylic acid, anionic hydroxyalkyl acrylate copolymers, hydroxy alkyl methacrylate copolymers, copolymers of alkyl vinyl ethers and acrylic acid, anionic polymers made by hydrolyzing an acrylamide polymer, anionic polymers made by polymerizing (i) (methyl)acrylic acid, (ii) (methyl)acrylic acid salts, (iii) 2-acylamido-2-methylpropane sulfonate, (iv) sulfoethyl-(meth)acrylate, (iv) vinylsulfonic acid, (v) styrene sulfonic acid, (vi) dibasic acids, (vii) salts of the foregoing monomers, and mixtures thereof, and anionic polymers made with crosslinking agents.

24. (original) A composition comprising a wet-strength enhancing amount of

(a) a functional promoter comprising a water-soluble anionic polymer having a molecular weight of at least about 50,000 daltons and a molecular weight charge index value of at least about 10,000,

(b) a cationic surfactant component present in an amount of less than about 50 wt %, based on the combined weight of the water-soluble: anionic polymer and the cationic surfactant component; and

(c) a cationic strength component,

wherein when the composition treats a fibrous substrate, in conjunction with a cationic strength agent, the treated fibrous substrate exhibits (i) a ratio of wet tensile strength to dry tensile strength ranging from about 1:5 to about 1:2 and (ii) an increase in a ratio of wet tensile strength to dry tensile strength of at least about 10%, as compared to when the fibrous substrate is treated with the functional promoter and without a surfactant.

25. (original) The composition of Claim 24, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 500,000 daltons.

26. (original) The composition of Claim 24, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 250,000 daltons.

27. (original) The composition of Claim 24, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 100,000 daltons.

28. (original) The composition of Claim 24, wherein the functional promoter has a molecular weight ranging from about 300,000 to about 500,000.

29. (original) The composition of Claim 24, wherein the functional promoter has a molecular weight charge index value ranging from about 10,000 to about 100,000.

30. (original) The composition of Claim 24, wherein the functional promoter has a molecular weight charge index value ranging from about 25,000 to about 100,000.

31. (original) The composition Claim 24, wherein the functional promoter is in solution.

32. (original) The composition of Claim 31, wherein the molecular weight of the functional promoter is less than 5,000,000 daltons.

33. (original) The composition of Claim 24, wherein the functional promoter is selected from the group consisting of copolymers of acrylamide-acrylic acids, copolymers of methacrylic acid, copolymers having alkyl acrylates and acrylic acid, copolymers of alkyl methacrylates and acrylic acid, anionic hydroxyalkyl acrylate copolymers, hydroxy alkyl methacrylate copolymers, copolymers of alkyl vinyl ethers and acrylic acid, anionic polymers made by hydrolyzing an acrylamide polymer, anionic polymers made by polymerizing (i)(methyl)acrylic acid, (ii) (methyl)acrylic acid salts, (iii) 2-acylamido-2-methylpropane sulfonate, (iv) sulfoethyl-(meth)acrylate, (iv) vinylsulfonic acid, (v) styrene sulfonic acid, (vi) dibasic acids, (vii) salts of the foregoing monomers, and mixtures thereof, and anionic polymers made with crosslinking agents.

34. (original) The composition of Claim 24, wherein the cationic strength component is (i) a polyamide strength resin or (ii) a glyoxylated cationic polymer or (iii) a polyamide strength resin and a cationic starch.

35. (original) The composition of Claim 24, wherein the composition further comprises a fibrous substrate component.

36. (original) The composition of Claim 35, wherein the fibrous substrate component is selected from the group consisting of fine paper pulp slurries, newsprint pulp slurries, board pulp slurries, towel pulp slurries, and tissue pulp slurries.

37. (original) The composition of Claim 24, wherein the functional promoter and the cationic strength component are present at a functional promoter-to-cationic strength component ratio ranging from about 1/20 to about 1/1.

38. (original) A paper product comprising the reaction product of:

(a) a cationic strength component,

(b) a fibrous substrate component, and

(c) a composition comprising (1) a functional promoter comprising a water-soluble anionic polymer having a molecular weight of at least about 50,000 daltons and a molecular weight charge index value of at least about 10,000 and (2) a cationic surfactant component;

wherein when the composition treats a fibrous substrate, in conjunction with a cationic strength agent, the treated fibrous substrate exhibits (i) a ratio of wet tensile strength to dry tensile strength ranging from about 1:5 to about 1:2 and (ii) an increase in a ratio of wet tensile strength to dry tensile strength of at least about 10%, as compared to when the fibrous substrate is treated with the functional promoter and without a surfactant.

39. (original) The paper product of Claim 38, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 500,000 daltons.

40. (original) The paper product of Claim 38, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 250,000 daltons.

41. (original) The paper product of Claim 38, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 100,000 daltons.

42. (original) The paper product of Claim 38, wherein the functional promoter has a molecular weight ranging from about 300,000 to about 500,000.

43. (original) The paper product of Claim 38, wherein the functional promoter has a molecular weight charge index value ranging from about 10,000 to about 100,000.

44. (original) The paper product of Claim 38, wherein the functional promoter has a molecular weight charge index value ranging from about 25,000 to about 100,000.

45. (original) The paper product of Claim 38, wherein the functional polymer is solution.

46. (original) The paper product of Claim 38, wherein the molecular weight of the functional promoter is less than 5,000,000.

47. (original) The paper product of Claim 38, wherein the cationic strength component is (i) a polyamide strength resin or (ii) a glyoxylated cationic polymer or (iii) a polyamide strength resin and a cationic starch.

48. (original) The paper product of Claim 38, wherein the functional promoter is selected from the group consisting of copolymers of acrylamide-acrylic acids, copolymers of methacrylic acid, copolymers having alkyl acrylates and acrylic acid, copolymers of alkyl methacrylates and acrylic acid, anionic hydroxyalkyl acrylate copolymers, hydroxy alkyl methacrylate copolymers, copolymers of alkyl vinyl ethers and acrylic acid, anionic polymers made by hydrolyzing an acrylamide polymer, anionic polymers made by polymerizing (i) (methyl)acrylic acid, (ii) (methyl)acrylic acid salts, (iii) 2-acrylamido-2-methylpropane sulfonate, (iv) sulfoethyl-(meth)acrylate, (iv) vinylsulfonic acid, (v) styrene sulfonic acid, (vi) dibasic acids, (vii) salts of the foregoing monomers, and mixtures thereof, and anionic polymers made with crosslinking agents.

49. (original) The paper product of Claim 38, wherein the paper product is a board paper product.

50. (original) The paper product of Claim 38, wherein the functional promoter and the cationic strength component are present at a functional promoter:cationic strength

component ratio ranging from about 1/20 to about 1/1.

51. (original) A method for making a paper product comprising adding to a pulp slurry containing a fibrous substrate component a composition comprising:

(a) a composition comprising (1) a functional promoter comprising (i) a water-soluble anionic polymer having a molecular weight of at least about 50,000 daltons and a molecular weight charge index value of at least about 10,000,

(2) a cationic surfactant component present in an amount of less than about 50 wt %, based on the combined weight of the water-soluble anionic polymer and the cationic surfactant component, and

(3) a cationic strength component,

wherein when the composition treats a fibrous substrate, in conjunction with a cationic strength agent, the treated fibrous substrate exhibits (i) a ratio of wet tensile strength to dry tensile strength ranging from about 1:5 to about 1:2 and (ii) an increase in a ratio of wet tensile strength to dry tensile strength of at least about 10%, as compared to when the fibrous substrate is treated with the functional promoter and without a surfactant.

52. (original) The method of Claim 51, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 500,000 daltons.

53. (original) The method of Claim 51, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 250,000 daltons.

54. (original) The method of Claim 51, wherein the functional promoter has a molecular weight ranging from about 50,000 to about 100,000 daltons.

55. (original) The method of Claim 51, wherein the functional promoter has a molecular weight ranging from about 300,000 to about 500,000 and charge.

56. (original) The method of Claim 51, wherein the functional promoter has a molecular weight charge index value ranging from about 10,000 to about 100,000.

57. (original) The method of Claim 51, wherein the functional promoter has a

molecular weight charge index value ranging from about 25,000 to about 100,000.

58. (original) The method of Claim 51, wherein the functional promoter is in solution.

59. (original) The method of Claim 51, wherein the molecular weight of the functional promoter is less than 5,000,000 daltons.

60. (original) The method of Claim 51, wherein the functional promoter is is selected from the group consisting of copolymers of acrylic acid, copolymers of acrylamide-acrylic acids, copolymers of methacrylic acid, copolymers having alkyl acrylates and acrylic acid, copolymers of alkyl methacrylates and acrylic acid, anionic hydroxyalkyl acrylate copolymers, hydroxy alkyl methacrylate copolymers, copolymers of alkyl vinyl ethers and acrylic acid, anionic polymers made by hydrolyzing an acrylamide polymer, anionic polymers made by polymerizing (i) (methyl)acrylic acid, (ii) (methyl)acrylic acid salts, (iii) 2-acrylamido-2-methylpropanesulfonate, (iv) sulfoethyl-(meth)acrylate, (i) vinylsulfonic acid, (v) styrene sulfonic acid, (vi) dibasic acids, (vii) salts of the foregoing monomers, and mixtures thereof, and anionic polymers made with crosslinking agents.

61. (original) The method of Claim 53, wherein the cationic strength component is a polyamide wet strength resin or a glyoxylated cationic polymer or a polyamide wet strength resin and a cationic starch.

62. (original) The method of Claim 51, wherein the fibrous substrate component is selected from the group consisting of fine paper pulp slurries, newsprint pulp slurries, board pulp slurries, towel pulp slurries, and tissue pulp slurries.

63. (original) The method of Claim 51, wherein the fibrous substrate is a board pulp slurry.

64. (original) The method of Claim 51, wherein the functional promoter and the cationic strength component are present at a functional promoter:cationic strength component ratio ranging from about 1/20 to about 1/1.

65. (original) The method of Claim 51, wherein the composition is added to the slurry at a dosage of at least about 0.1 lb/ton and the cationic strength component is added to the slurry at a dosage of at least about 0.1 lb/ton.